Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C., 20554

In the Matter of Improving Public Safety Communications in the 800 MHz Band Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels	WT Docket No. 02-55

Comments of

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SUMMARY

Boeing recognizes the critical importance of interference-free Public Safety communications and the need to remedy expeditiously the interference problems being experienced in the 800 MHz band. The Commission should employ several key principles in assessing and ultimately selecting an approach that can resolve the undeniable and harmful interference being experienced by Public Safety licensees in the 800 MHz band.

First, it is critical that any solution minimizes the physical disruption and monetary cost to other spectrum users in the 800 MHz band, along with the users of any other band that is part of the solution. Second, any plan should mandate that those licensees causing interference to Public Safety licensees should bear the burden of any retuning or relocation costs. Further, as a logical outgrowth of this principle, the Commission should recognize that Nextel is the overwhelming source of the interference being experienced in the 800 MHz band. Third, equitable solutions must be implemented for spectrum users in the border regions.

Border Region Considerations. In addressing interference at 800 MHz, the Commission should not adopt a solution that migrates spectrum users along the Canadian and Mexican borders to spectrum that is not available due to bilateral coordination agreements. Proposals to reassign channels within the 800 MHz band, or between adjacent spectrum bands, have the very real potential of disrupting the detailed, individualized bilateral coordination agreements by moving U.S. licensees to channels currently assigned to Canada. Therefore, the Commission should implement any solution that is adopted in this proceeding on a channel-by-channel or incremental basis in the border regions. Only after the necessary bilateral agreements are completed should the Commission consider requiring 800 MHz PLMRS or Public Safety incumbents in the border regions to move to new spectrum.

Analysis of the 800 MHz Proposals. While Boeing generally supports a retuning approach, Boeing believes that the limited rebanding proposal that was assembled by the Coalition for Constructive Public Safety Interference Solutions ("Coalition") may ultimately be the best solution available. The Coalition plan, which would move Public Safety to the Upper 700 MHz band, is preferred because it avoids significant disruption to the vast majority of operators in the spectrum, provides several clear benefits for Public Safety communications, and minimizes the border region bilateral agreement complications.

If the Commission is unable to adopt the Coalition proposal, then certain aspects of the proposals put forth by the Commission and NAM/MRFAC also seem promising. These proposals eliminate interleaving in the 800 MHz band, separate Public Safety spectrum from CMRS spectrum, and offer the possibility of retuning as opposed to re-equipping. The proposal put forth by the Private Wireless Coalition is also attractive. This proposal calls for moving Public Safety to 700 MHz as a long-term solution, coupled with the short-term solutions prescribed by the *Best Practices Guide* and rearranging the 800 MHz band to eliminate interleaving.

Other revisions to the Commission's rules should not harm PLMRS incumbents. The freeze on intercategory sharing should remain intact because the different user categories have continuing utility, and the freeze shields PLMRS spectrum from the encroachment of CMRS providers. Commercial users should not be permitted to encroach further on the spectrum of private users. While the existing freeze may prompt an occasional waiver request, the administrative burden associated with addressing such intermittent waiver requests is greatly outweighed by the problems associated with lifting the freeze altogether. Finally, a special spectrum set-aside for Critical Infrastructure Industries is discouraged because of the difficulty in

establishing a bright-line definition, and because it could force the Commission to consider a flood of similar spectrum set aside requests.

The Commission should dismiss the proposal to reallocate 2 GHz MSS spectrum.

As recently determined by the Commission, the 2 GHz MSS allocation is the highest and best use of this spectrum. Efforts to undermine or reverse that determination are contrary to public policy, have tangible deleterious effects on 2 GHz MSS licensees, and should be rejected. 2 GHz MSS licensees have not been given a fair opportunity to implement their systems and prove the Commission correct in its determination that a MSS allocation at 2 GHz serves the public interest. Reallocation of any of the 2 GHz MSS spectrum would significantly impair MSS licensees' rights, reasonable expectations regarding the spectrum, and the future potential to expand 2 GHz MSS systems to meet reasonable and anticipated demand.

Furthermore, several open Commission proceedings are already addressing major issues related to the 2 GHz MSS allocation essentially foreclose any consideration of Nextel's 2 GHz proposal. Therefore, the Commission should promptly resolve the uncertainty created for 2 GHz MSS licensees by expeditiously removing from consideration in this proceeding Nextel's proposal to reallocate 10 megahertz of the 2 GHz MSS spectrum.

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The Boeing Company ("Boeing"), by its attorneys and pursuant to Section 1.415 of the Commission's Rules, 47 C.F.R. § 1.415, hereby files these comments in response to the Commission's Notice of Proposed Rulemaking ("*NPRM*") in the above-captioned proceeding.[1]

I. INTRODUCTION

Boeing appreciates the opportunity to participate in this proceeding and believes that it has a corporate responsibility to assist the Commission in resolving the undeniable and harmful interference currently experienced by Public Safety entities in the 800 MHz band. Boeing recognizes the critical importance of interference-free Public Safety communications and the need to remedy the interference problems experienced in the 800 MHz band in an expeditious manner. The Commission's resolution of the Public Safety interference problem will also have

[1] *See Improving Public Safety Communications in the 800 MHz Band; Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels*, Notice of Proposed Rulemaking, WT Docket No. 02-55, 17 FCC Rcd 4783 (2002) ("*NPRM*").

the positive side effects of alleviating harmful interference experienced by other private users in the 800 MHz band and promoting more efficient uses of the spectrum.

Boeing has a significant interest in this proceeding from many different perspectives, and provides comments in its capacity as a Private Land Mobile Radio Services ("PLRMS") licensee, a provider of ancillary public safety services, and a 2 GHz Mobile Satellite Services ("MSS") licensee. While not exclusively advocating any individual proposal for the 800 MHz band, Boeing takes this opportunity to provide general comments and highlight some overarching principles for the development of an effective, fair, and workable solution.

STATEMENT OF INTEREST

Boeing has traditionally been an active participant in Commission proceedings related to the use of the 800 MHz and 2 GHz bands, and takes a tripartite interest in the instant proceeding in its capacity as: (1) a private radio licensee, (2) a provider of ancillary public safety services, and (3) a 2 GHz MSS licensee. Each of these roles is discussed briefly below.

To help achieve its corporate objectives as the world's largest manufacturer of commercial aircraft and a leading satellite and defense contractor, Boeing holds and relies considerably on numerous 800 MHz licenses used extensively for private internal communications. Most of Boeing's 800 MHz licenses are in Washington State, although Boeing also has 800 MHz systems in other states such as Oregon, Texas, Kansas, Missouri, Alabama, and Montana. Boeing uses its 800 MHz Business and Industrial/Land Transportation ("B/ILT") licenses to provide specialized and critical safety and productivity functions such as security, emergency services, aeronautical and industrial regulatory compliance, research and development, and manufacturing support. Internal analysis reveals that Boeing's information, communication and control systems requirements cannot be satisfied adequately by the use of existing commercial telecommunications services.

The uninterrupted integrity of Boeing's communications networks in the 800 MHz band is particularly important with respect to their use for internal safety and emergency services. Due to the potentially critical nature of these communications, interference free transmissions are vital. In addition to responding to emergencies at Boeing facilities, Boeing has also entered into several mutual aid agreements with local Public Safety entities in areas such as Washington, Missouri, and Kansas. Under these cooperative agreements, Boeing supplements local Public Safety entities by serving as the "first responder" to public safety emergencies occurring near Boeing's operations. For example, Boeing's mutual aid agreements were utilized during the Seattle, Washington earthquake of February 2001 and during the Wichita, Kansas tornado of May 1999, where Boeing provided first responder Public Safety services to the affected communities surrounding its operations.

Finally, Boeing is a MSS licensee in various spectrum bands where MSS is authorized and was licensed in July 2001 to provide 2 GHz MSS. Boeing's 2 GHz MSS network is designed to provide aeronautical communications and navigation services that can improve the efficiency and safety of global air transportation by providing a satellite-based infrastructure for air traffic management ("ATM"), communications, navigation, and surveillance ("CNS") services. Further, as a manufacturer of MSS satellite equipment, Boeing has an interest in MSS issues and strives to meet the needs of its current and future satellite customers. Considered together, Boeing clearly has a considerable interest in the outcome of the instant proceeding.

II. THE COMMISSION SHOULD ADOPT THE FOLLOWING PRINCIPLES FOR RESOLVING INTERFERENCE IN THE 800 MHz BAND

In addition to the potential solutions outlined by the Commission in the *NPRM*,[2] many alternatives—proposing retuning, rebanding, or a combination thereof—are being developed by the industry to help resolve the 800 MHz interference problem.[3] The retuning solutions would shift 800 MHz spectrum users to other assignments that could be utilized without the purchase of new equipment. In contrast, the rebanding solutions would require operators to purchase new equipment in order to relocate to other spectrum bands.

Boeing agrees with Commissioner Abernathy in favoring solutions that are limited to the confines of the bands currently used for the services now being provided by the incumbent licensees (*i.e.,* a retuning solution).[4] Retuning solutions are beneficial because they avoid extensive re-equipping, which would be required by rebanding proposals. Retuning translates into a significant reduction in the costs incurred in resolving the interference problems being experienced in the 800 MHz band.

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[2] *See NPRM* ¶¶ 26, 73-79.

[3] For example, proposals have been offered or are being developed by Nextel, the United Telecom Council ("UTC"), the Cellular Telecommunications and Internet Association ("CTIA"), the Coalition for Constructive Public Safety Interference Solutions ("Coalition"), and the Private Wireless Coalition, which currently includes Aeronautical Radio, Inc. ("ARINC"), the Association of American Railroads ("AAR"), Forest Industries Telecommunications ("FIT"), Industrial Telecommunications Association, Inc. ("ITA"), MRFAC, Inc. ("MRFAC"), National Association of Manufacturers ("NAM"), Personal Communications Industry Association ("PCIA"), and Small Business in Telecommunications ("SBT").

[4] *See* Commissioner Kathleen Q. Abernathy, A Principled Approach to LMCC Spectrum Management**,** Address before the LMCC National Conference, Washington D.C. at 2 (Apr. 19, 2002) *available at* http://www.fcc.gov/ Speeches/Abernathy/2002/spkqa209.html (indicating that the Commission "would like to find as many of the answers to 800 MHz in the 800 MHz band") (*"Commissioner Abernathy's LMCC Remarks*").

While Boeing generally supports a retuning solution, Boeing believes that the limited rebanding proposal that was assembled by the Coalition for Constructive Public Safety Interference Solutions ("Coalition") may be the best solution available, because it provides a simple solution for the 800 MHz band, clear benefits for Public Safety communications, and avoids significant disruption to the vast majority of operators in the spectrum.[5]

Although Boeing supports the Coalition proposal, Boeing acknowledges that new proposals, and modifications to existing proposals, appear to be continually under development. Boeing intends to maintain an objective stance regarding these various alternatives and will not exclusively advocate a specific proposal at this point in the proceeding. Certain aspects of the proposals put forth by the Commission and NAM/MRFAC seem especially promising, however. Boeing therefore continues to review these and other proposals and encourages the evolution of the various existing and new proposals so that the industry can reach the best, lowest cost, and least disruptive solution.

Regardless of the proposal or combination of proposals ultimately chosen by the Commission, several key principles should guide the process. Boeing agrees with Commissioner Abernathy's "Key Considerations" for this proceeding, namely, that any solution should: (1) aggressively attack Public Safety interference, (2) minimize costs, (3) minimize disruption, and (4) consolidate Public Safety and identify additional interoperability channels if needed.[6] Boeing is particularly heartened with Commissioner Abernathy's recent statements regarding: (1) skepticism of any proposal that requires the imposition of significant costs on any one group of

[5] *See* Letter from Terry Addington, President & CEO, FIRSTCellular, *et al.*, to The Honorable Michael K. Powell, Chairman, Federal Communications Commission (filed Apr. 26, 2002) (describing the Coalition proposal) (available as an *ex parte* presentation in WT Docket No. 99-168 and GN Docket No. 01-74).

[6] *See NPRM* at 61 (Separate Statement of Commissioner Abernathy).

licensees - particularly licensees that do not cause, and are not harmed by, the interference, and (2) a reluctance to solve 800 MHz interference problems by moving parties into a host of other bands and further disrupt licensees' plans.[7]

To highlight and supplement Commissioner Abernathy's "Key Considerations," Boeing also offers the following guidelines for resolution of the 800 MHz interference problem.

First, it is critical that any solution minimizes the physical disruption and monetary cost to other spectrum users in the 800 MHz band, along with the users of any other band that is part of the solution. This consideration is certainly applicable to those 800 MHz incumbents that are clearly *not* a source of harmful interference to Public Safety communications. Regarding physical disruption, it is critical that the disruption to Public Safety entities and their communications be minimal, given the very nature of their services. Avoiding disruption to B/ILT licensees is also important to minimize interruptions to critical operations that help fuel commerce and the economy. Further, any solution should ensure adequate replacement spectrum for displaced B/ILT and Public Safety incumbents. This includes adequate spectrum in terms of availability, amount, and propagation characteristics.

In terms of costs, the expense of relocation and/or retuning for all affected parties will be significant, and greatly in excess of the $500 million offered by Nextel in its proposal.[8] Boeing estimates that its own costs to implement a rebanding solution would be over $50 million *in equipment costs alone*.[9] In contrast, Boeing anticipates retuning its 800 MHz equipment would

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[7] *See Commissioner Abernathy's LMCC Remarks* at 2-3.

[8] *See NPRM* ¶ 24.

[9] *See* Letter from Laurette T. Koellner, President, Shared Services Group, The Boeing Company to The Honorable Michael K. Powell, Chairman, Federal Communications Commission at 3-4 (filed Jan. 14, 2002) (available as an *ex parte* filing in WT Docket No. 02-55).

cost several million dollars.[10] The disruption caused by resolution of this issue may also include costs that are equally significant but perhaps less quantifiable than equipment costs, such as the threshold issue of availability of equipment in the replacement bands, disruption of business and critical internal communications, and regulatory uncertainty caused by the potential relegation to secondary status.

Beyond the 800 MHz band, this proceeding has a potential "ripple effect" on several other spectrum bands and services that should not be ignored. For example, beyond the 800 MHz band, proposals currently being considered implicate the 700 MHz band, the 900 MHz band, the 1910-1930/2390-2400 MHz Unlicensed Personal Communications Services ("PCS") bands, and the 2 GHz MSS band. Further, besides the Public Safety, B/ILT, and Specialized Mobile Radio ("SMR") incumbents in the 800 MHz band, alternate proposals also implicate incumbents in other bands such as the 2 GHz MSS incumbents; the Broadcast Auxiliary Service ("BAS") and Fixed Services licensees also in the 2 GHz band; 700 MHz broadcast incumbents; and users of the unlicensed PCS spectrum. Consideration of these other bands and users in certain instances gives rise to very novel legal issues (*e.g.,* the proposed reallocation of 2 GHz MSS spectrum, and the potential reclaiming of 700 MHz spectrum previously won at auction). Consideration of such issues will at the very least lead to additional delay and regulatory uncertainty. This is already apparent given the recent requests to delay the 700 MHz auctions pending resolution of this proceeding.[11]

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[10] *See id.*

[11] *See, e.g.,* Letter from ARINC, AAR, FIT, ITA, MRFAC, Inc., NAM, SBT, and UTC, to The Honorable Michael K. Powell, WT Docket No. 02-55 (filed Apr. 16, 2002) (requesting delay of the upper 700 MHz auction).

Second, any plan should mandate that those causing interference to Public Safety licensees should bear the burden of any relocation or retuning costs. Blameless 800 MHz licensees should not be required to fix the interference problems caused by others. Even more, it should not be incumbent on *private* users in the band to help fix problems caused by commercial service providers. Many private users, including Boeing, have maintained steadfast opposition to the conversion of private spectrum to commercial use.[12] The problems currently being experienced in the 800 MHz band verify that widespread conversion of private spectrum to commercial use was ill-advised. It is bad enough that PLMRS licensees in the 800 MHz band may be forced to retune their equipment or relocate to other spectrum at their own cost due to interference caused by others. It would be patently unfair to require non-interfering, displaced, and/or disenfranchised PLMRS incumbents to help pay for relocation or retuning of Public Safety systems as well.

Further, as a logical outgrowth of this principle, the Commission should recognize that Nextel is the overwhelming source of the interference being experienced by Public Safety entities in the 800 MHz band. It is common industry knowledge that Nextel is the primary source of the interference in the band.[13] Instances of Commercial Mobile Radio Service

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[12] *See, e.g., Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended; Promotion of Spectrum Efficient Technologies On Certain Part 90 Frequencies; Establishment of Public Service Radio Pool in the Private Mobile Frequencies Below 800 MHz,* Initial Comments of The Boeing Company, WT Docket No. 99-87 (filed Aug. 2, 1999); *Wireless Telecommunications Bureau Seeks Comment on Nextel Communications, Inc. Request for Waiver,* Initial Comments of The Boeing Company, DA 98-2206 (filed Nov. 25, 1998).

[13] *See, e.g.,* Allyson Vaughan, *FCC Tackles 800 MHz Interference Problems*, Wireless Week, Mar. 18,2002, at 4 (quoting Wireless Bureau Chief Thomas Sugrue as saying the cause of the interference is "more likely on the Nextel side.") *at* http://www.wirelessweek.com/index.asp?Layout=story&doc_id=76589&verticalid=33&vertical=Regulatory&industry=Spectrum+and+Licensing; Paul Kirby, *Public Safety Agencies Complain About Interference From Nextel,* Telecommunications Reports, Sept. 24, 2001 at 21-22 (documenting Nextel as cause of interference).

("CMRS")/Public Safety interference in the 800 MHz band are well documented and are proliferating.[14] Nextel even admits as much in its petition for rulemaking.[15] As such, Nextel should be responsible for funding any retuning or rebanding that is necessary to resolve the interference that Nextel is causing Public Safety licensees in the 800 MHz band.

Third, equitable solutions must be implemented for incumbent licensees in the border regions. Specifically, no solution should shift or relocate parties to spectrum that is not available due to bilateral commitments. For example, and as will be discussed in greater detail below, Boeing holds a significant number of 800 MHz B/ILT licenses in the Puget Sound area. These licenses are subject to coordination agreements between the United States and Canada that render approximately half of the 800 MHz spectrum in affected areas unavailable.[16] These licenses, and certainly many other licenses similarly situated in proximity to the Canadian and Mexican borders, would be jeopardized under certain proposals. Further, given the spectrum deficit in border areas, a relocation plan may unduly harm existing border region incumbents in terms of equality of replacement spectrum. The Commission should take care to ensure that these unique circumstances are appropriately addressed in any solution it adopts to remedy the 800 MHz interference problem. Specifically, until the Commission identifies steps to

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[14] *See, e.g., NPRM* ¶ 14; Project 39, *Interference to Public Safety 800 MHz Radio Stations, Interim Report to the FCC* (Dec. 24, 2001) (30 of 45 reports of public safety interference mention Nextel by name); Project 39 Technical Committee, Six-Month Status Report of the Project 39 Technical Committee, Presented at the APCO Western Regional Conference, Phoenix, AZ (Mar. 19, 2002) (documenting seven additional public safety interference situations—all mentioning Nextel as a cause) *available at* http://www.apco911.org/.

[15] *See* Nextel Communications, Inc., *Promoting Public Safety Communications – Realigning the 800 MHz Land Mobile Radio Band to Rectify Commercial Mobile Radio – Public Safety Interference and Allocate Additional Spectrum to Meet Critical Public Safety Needs,* White Paper at 5 (filed Nov. 21, 2001)("*Nextel White Paper*").

[16] *See infra* at Section II for a detailed description of the various international coordination agreements.

accommodate the particular needs of border region licensees, a "Do No Harm" policy should be implemented.

II. ANY SOLUTION TO THE 800 MHz INTERFERENCE PROBLEM SHOULD ACCOUNT FOR THE UNIQUE CONSIDERATIONS OF BORDER REGION INCUMBENTS

In its *NPRM*, the Commission asks how relocation plans can be implemented consistent with international agreements in areas adjacent to the Canadian and Mexican borders.[17] Boeing's comments in this section focus solely on the unique considerations of the Canadian border region area. Similar issues probably exist for Mexican border region licensees in the 800 MHz band as well. The unique considerations of international border regions have not been adequately addressed to date in any of the 800 MHz proposals. Boeing takes this opportunity, therefore, to discuss the situation and offer a proposal that would accommodate the many border region incumbents (both Public Safety and PLMRS) in the 800 MHz band.

Because the signals emitted from radio communication services do not recognize international boundaries, international agreements are needed to ensure efficient and interference-free communications in United States/Canadian border regions. Terrestrial stations operating at frequencies above 28 MHz are not covered by worldwide international treaty. Therefore, bilateral frequency sharing agreements have traditionally been negotiated between the United States and Canada for the use of such spectrum in the countries' border regions.[18] Some of these international agreements, which were reached via cooperation by the U.S. State

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[17] *See NPRM* ¶ 33.

[18] *See* Planning & Negotiations Division, International Bureau, *2001 Report on International Negotiations, Spectrum Policy and Notifications* at 3 (Sept. 2001) *available at* http://www.fcc.gov/ib/files/11_27_01/ annual_rpt2001.doc. ("*2001 International Negotiations Report*"). The Canadian "border region" is typically considered to be the area within approximately 70 miles of the border, although the region varies in certain areas. *Id.* at 8.

Department, the Commission, and Industry Canada, pertain specifically to the 800 MHz band.[19] In addition to these overarching spectrum allocation agreements, individualized and narrowly tailored coordination or spectrum use arrangements are sometimes made.[20] Identifying feasible solutions can be difficult and the balancing of interests can be very delicate. Further, the procedural issues and the time and other resources required to negotiate and implement such international agreements can be impediments to the rapid resolution of spectrum sharing issues. The end result often is a complicated, but manageable, patchwork of spectrum allocations and coordination fixes.

The established agreements between the United States and Canada specific to the 800 MHz band in Region 5 (the region covering the Seattle/Puget Sound area) allocate the available channels almost equally.[21]

Channels 1 - 150	151 450	451 600	601 715	716 830
Public Safety and ILT (US)	CANADA	Business and SMR (US)	CANADA	Public Safety NPSPAC (US)

[19] For example, "Arrangement F" covers the coordination of land mobile radio services operating in the 806-890 MHz band in the border region. *See Arrangement Between the Department of Communications of Canada and the Federal Communications Commission of the United States Concerning the Use of the Band 806 to 890 MHz along the Canada-United States Border*, Jan. 8, 1990, U.S.-Canada ("*Arrangement F*"). Several interim agreements and arrangements are also in place. *See, e.g.,* Land Mobile Services (821-824/866-869 MHz), Aug. 15, 1990, U.S.-Canada; Air/Ground Radio (849-851/894-896 MHz), Aug. 28, 1992, U.S.-Canada; Letters: Land Mobile - Canadian Use (806-890 MHz): Exchange of Letters Pertaining to the Land Mobile Radio Services Operating in the Band 806-890 MHz Concerning the Spectrum Made Available for Canadian Use East of 81 Degrees West Longitude, Apr. 11, 1986, U.S.-Canada; Land Mobile-Sharing (806-890 MHz): Exchange of Letters Pertaining to the Land Mobile Radio Service Operating in the Band 806-890 MHz Concerning the Sharing of Frequencies in Sector 2 of Sharing Zone 1, Oct. 15, 1986, U.S.-Canada. *Id.* at 9-11.

[20] *See 2001 International Negotiations Report* at 3.

[21] *See* 47 C.F.R. § 90.619 (2001).

Canada was allocated Channels 151-450 and Channels 601-715.[22] The United States was allocated Channels 1-150, Channels 451-600, and Channels 716 to 830.[23] The United States then assigned 150 channels to Public Safety and ILT users (the General Category Channels 1-150), 149 channels for Business and SMR users, and 114 channels for Public Safety/NPSPAC users.[24] Between the international sharing agreements and the domestic channel allocations, available B/ILT channels in the border areas are extremely scarce resources.

A. The Commission Should Consider the Unique Border Regions When Crafting Its Plan to Eliminate Harmful Interference in the 800 MHz Band, Particularly in the 809-816 MHz Band Where Canada Has Coordination Rights

Any spectrum retuning or rebanding plan for the 800 MHz band that does not account for the unique border region channel assignments will cause major additional problems for border area licensees such as Boeing. Proposals to shift spectrum or groups of channel assignments within the 800 MHz band, or to adjacent spectrum bands, have the very real potential of disrupting the detailed, individualized bilateral coordination agreements by shifting B/ILT users to channels currently assigned to Canada.

Canada may be reluctant to revise substantially the bilateral coordination agreements for the 800 MHz band. Even if Canada is willing, it could take significant time to negotiate new bilateral agreements. Until such agreements are implemented, the needs of border region incumbents, be they Public Safety or PLMRS, should be accounted for fully.

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[22] *See id. See also* Industry Canada, *Land Mobile Radio Services Operating in the Band 806-890 MHz, Terrestrial Radiocommunication Agreements and Arrangements* (Dec. 1993) *available at* http://strategis.ic.gc.ca/SSG/sf01255e.html; Industry Canada, *Land Mobile Service Operating in the Bands 821-824 MHz and 866-869 MHz, Terrestrial Radiocommunication Agreements and Arrangements* (Dec. 1993) *available at* http://strategis.ic.gc.ca/SSG/sf01256e.html.

[23] *See* 47 C.F.R. § 90.619 (2001).

[24] *See id.*

The various plans that have been put forward to address interference at 800 MHz create significant potential problems for border region incumbents, particularly those plans that propose to use rebanding to eliminate Public Safety interference. Any proposal that relocates incumbent licensees from the 800 MHz band to the 700 MHz or 900 MHz band (or both) will face difficulty when applied to border region licensees. Proposals that call for relocation of 800 MHz incumbents to the 700 MHz band will confront difficult coordination problems with incumbent Canadian television broadcasters. Canadian broadcasters are allocated 746-806 MHz for UHF television broadcasting, and the Canadian digital television ("DTV") transition is currently expected to take significantly longer than the DTV transition in the United States.[25] Since there are no definite plans for Canadian broadcasters to move out of 700 MHz, the opportunity for displaced 800 MHz border region licensees to use 700 MHz replacement spectrum is dubious.

Relocation proposals involving the 900 MHz band also could prove problematic due to certain inferiorities in the spectrum propagation characteristics (as opposed to the 800 MHz band) for the provision of PLMRS services in certain geographic areas. Specific to Boeing, the 900 MHz band is a poor candidate for substitution in the northwestern United States because of its forested and mountainous terrain.[26] Given these terrain characteristics, more 900 MHz spectrum would be needed for each licensee to provide service that is comparable to the service that is currently provided in the 800 MHz band. Because of the need to provide this additional

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[25] *See* Industry Canada, *Canadian Table of Frequency Allocations – 9 kHz to 275 GHz* (Dec. 2000) *available at* http://strategis.ic.gc.ca/pics/sf/cane.pdf. Industry Canada is currently considering a proposal to allow mobile Public Safety services on a co-primary basis with broadcasters. *See Proposal to Introduce the Mobile Service on a Co-primary Basis with the Broadcasting Service in the Frequency Band 746-806 MHz,* Canada Gazette Notice DGTP-004-01 (June 8, 2001) *available at* http://strategis.ic.gc.ca.

[26] *See Ex Parte* Letter from Gerald L. Noe and Stanley M. Bronisz, Owners, Wiztronics, Inc. to The Honorable Michael K. Powell, Chairman, Federal Communications Commission, WT Docket No. 02-55 (filed Apr. 15, 2002) at 2.

spectrum at 900 MHz, fewer users will be able to provide comparable PLMRS service. Simply put, not enough 900 MHz spectrum available for relocation currently exists to successfully relocate all PLMRS licensees to 900 MHz in areas such as Border Region 5. Therefore, a 900 MHz relocation proposal is unworkable, particularly when considered in combination with the unavailability of 700 MHz spectrum along the border.

B. Because Current Retuning or Rebanding Proposals Cannot Adequately Address the Requirements of Border Region Incumbents, a "Do No Harm" Policy Should Be Implemented

As discussed above, current proposals that call for retuning or rebanding to spectrum under the control of other countries are not viable solutions for incumbent licensees in the border regions. As such, these licensees require special accommodation when crafting local solutions. Because it will likely take significant time and resources to negotiate and implement new bilateral channel sharing and coordination agreements for the border regions, the Commission should implement any solution that is adopted in this proceeding on a channel-by-channel or incremental basis.

Instead of shifting 800 MHz incumbents to other bands where spectrum may not be available in the border regions, the Commission and Department of State (with industry cooperation) should work with Canada and Mexico to reach the specific and detailed agreements that will be necessary to enable displaced 800 MHz incumbents to successfully provide comparable service in their newly assigned channel assignments. Only after these international agreements are completed should the Commission consider requiring 800 MHz PLMRS or Public Safety incumbents in the border regions to move to new spectrum.

In the meantime, border region incumbents should be permitted to continue to use their current channel assignments in the 800 MHz band. This includes retaining primary status and

enjoying the full benefits of the Commission's established procedures for resolving harmful interference.[27] Border region interference issues should be addressed by localized, site-by-site solutions crafted by frequency coordinators. Further, the Commission should actively enforce its interference resolution processes and take appropriate action in the event of instances of unabated and continued harmful interference.

Commission precedent exists for the establishment of such a "Do No Harm" policy. For example, when transitioning Channels 1-150 of the General Category band from site-based licensing to accommodate geographic area SMR licensing, the Commission held that incumbent site-by-site licensees were to be protected from interference from the new geographic area licenses.[28] The Commission has successfully used this policy when formulating new licensing parameters in virtually all services that have shifted to Economic Area ("EA") licensing.[29] The

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[27] *See* 47 C.F.R. § 90.403(e) (2001) (requiring licensees to take reasonable precautions to avoid causing harmful interference). The Commission's Enforcement Bureau has also entered into various Memoranda of Understanding with Frequency Advisory Committees and frequency coordinators to facilitate resolution of interference problems. *See* http://www.fcc.gov/eb/interference/plmic.html for more information.

[28] *See Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band; Implementation of Sections 3(n) and 322 of the Communications Act -- Regulatory Treatment of Mobile Services; Implementation of Section 309(j) of the Communications Act -- Competitive Bidding,* Second Report and Order, 12 FCC Rcd 19079, 19093 (1997)("[W]e clarify that SMR and General Category channels assigned to non-SMR pools in the border areas are not available for use by EA licensees in those regions. Thus, non-SMR licensees operating on those channels in border areas may continue to operate and will not be subject to relocation. Moreover, EA licensees must afford full interference protection to non-SMR licensees operating on these channels.").

[29] *See, e.g., Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems,* Second Report and Order and Further Notice of Proposed Rulemaking, 12 FCC Rcd 2732, 2739 (1997)(adopting incumbent interference protection for site-based paging licensees)(1997); *Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Mobile Radio Service,* Third Report and Order and Fifth Notice of Proposed Rulemaking, 12 FCC Rcd 10943, 11025-26 (1997) (adopting interference protection for site-based licensees in the 220 MHz band when auctioning 220 MHz EA licenses).

Commission has even decided to use a similar "Do No Harm" approach for the border region areas in the currently pending Upper 700 MHz proceeding.[30]

A similar requirement to protect the limited group of 800 MHz border region incumbents is equally necessary given the present circumstances. This "Do No Harm" policy is further justified because it could be designed to be temporary. For example, any new channel occupants would be inconvenienced only for the time necessary to reach new bilateral agreements to adequately protect 800 MHz incumbents in their new spectrum assignments.

III. BOEING FAVORS THE COALITION PROPOSAL TO RESOLVE 800 MHz INTERFERENCE, BUT ALSO FINDS MERIT IN ASPECTS OF PROPOSALS ADVANCED BY NAM/MRFAC AND THE COMMISSION

In analyzing the various proposals advanced so far against the guiding principles for a solution to the 800 MHz interference problem discussed above, Boeing believes that the Coalition proposal best accomplishes the Commission's multiple goals in this proceeding. As discussed below, the Coalition proposal shifts Public Safety services into the Upper 700 MHz spectrum slated to be vacated by channels 60-69 of the UHF broadcasting service. While Boeing favors the Coalition proposal, Boeing also believes that elements of the NAM/MRFAC and Commission proposals have certain favorable characteristics. Foremost, both the NAM/MRFAC and Commission's proposals would resolve the Public Safety interference problem while minimizing the cost and disruption to incumbent B/ILT licensees. As discussed below, however,

[30] Specifically, the Commission has adopted a special interim regime for new 700 MHz licensees in the Canadian and Mexican border areas, whereby new 700 MHz licensees must not cause harmful interference to (and, in fact, must accept interference from) Canadian and Mexican broadcast incumbents pending the formation of new bilateral international agreements. *See Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules,* First Report and Order, 15 FCC Rcd 476, 534-35 (2000).

all of the proposals under consideration raise certain coordination difficulties along the Canadian and Mexican borders.

In selecting a plan to address interference in the 800 MHz band, the Commission should also keep in mind that, regardless of which proposal is implemented, some isolated incidences of interference caused by cellularized CMRS systems may inevitably continue to occur. In these instances, the Commission should actively enforce its existing requirement that CMRS providers work with affected parties and coordinators to resolve interference problems on a site-by-site basis. To supplement this requirement to successfully resolve isolated interference issues, the Commission should vigorously enforce its technical and coordination rules. Also, under any plan that is adopted, incumbent PLMRS licensees that cannot afford to relocate should not be relegated to secondary non-interference status.[31] As Commissioner Abernathy indicated, businesses require communications that are reliable and durable in order to perform their essential functions—including internal safety functions—and many of these communications needs cannot be adequately met by commercial services.[32] Such critical internal business communications should not be jeopardized or compromised by the potential for harmful third party interference.

A. Boeing Supports Adoption by the Commission of the Coalition Proposal

Without question, the simplest and most effective approach that has been developed to resolve interference to Public Safety services in the 800 MHz band is to relocate Public Safety licensees to the Upper 700 MHz band, which is scheduled to be vacated by Channels 60-69 UHF broadcasters. This is the centerpiece of the Coalition proposal and it has generated considerable

[31] *See NPRM* ¶ 62.

[32] *See Commissioner Abernathy's LMCC Remarks* at 2.

industry support.[33] In order to give the Commission and the industry adequate opportunity to consider this proposal, Boeing supports a delay in the Upper 700 MHz spectrum auction currently scheduled to begin in June.[34] If the auction were to continue as scheduled, the Commission would be deprived of the best means available to meet the Commission's goals in this proceeding.

Moving Public Safety licensees to the 700 MHz band places them in close proximity to other Public Safety allocations.[35] Further, moving Public Safety licensees to the 700 MHz band will provide the Public Safety community with larger sections of contiguous spectrum that are ideal for interoperability and spectrally efficient equipment. In fact, the current proposal to move Public Safety incumbents to the 700 MHz band would give Public Safety a total of 54 megahertz of spectrum in the 700 MHz band. In all, Public Safety will net an additional 20.5 MHz of spectrum under the Coalition proposal. This will help meet Public Safety's growing communications needs. The Upper 700 MHz spectrum is preferable to smaller, more fragmented spectrum segments because more efficient technology can be used to maximize its capacity and throughput.

Furthermore, consolidating Public Safety at 700 MHz will contribute to inter-agency cooperation by facilitating interoperability between federal, state, and local Public Safety

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[33] The proposal to relocate Public Safety users to the Upper 700 MHz band is currently supported by NAM/MRFAC, ITA, FIT, SBT, AAR, ARINC, and the Personal Communications Industry Association ("PCIA").

[34] The Upper 700 MHz Auction (Auction 31) is scheduled to begin on June 19, 2002. It includes spectrum in the 747-762 MHz and 777-792 MHz bands. *See* http://wireless.fcc.gov/auctions/31/factsheet.html.

[35] Spectrum has already been allocated at 764-776/794-806 MHz for Public Safety. *See Reallocation of Television Channels 60-69, the 746-806 MHz Band,* Report and Order, 12 FCC Rcd 22953 (1998).

communications networks, without the use of expensive multi-band radios. Besides interoperability, consolidating Public Safety at 700 MHz could facilitate priority access service and help the nation meet its homeland security needs.

The challenges associated with relocating Public Safety to the Upper 700 MHz band are no more daunting than the problems associated with the other 800 MHz proposals. Although incumbent television channel 60-69 broadcasters in some areas of the country occupy the Upper 700 MHz band, it should be possible to accelerate their removal in light of the importance of eliminating interference to Public Safety communications. Specifically, incumbent broadcasters could be required to expedite their conversions to DTV and their departure from the spectrum. Also, although it will admittedly be costly to relocate 800 MHz Public Safety licensees to new spectrum in the Upper 700 MHz band, the other proposals being considered (especially the rebanding proposals), also involve considerable expenditures.

B. Boeing Also Finds Merit in the NAM/MRFAC Proposal

If the Commission is unable to adopt the Coalition proposal of moving Public Safety into the Upper 700 MHz band, Boeing believes that the Commission should employ a solution that minimizes disruption for licensees and enables retuning of equipment, rather than its expensive replacement. In pursuit of these goals, industrial and business users of the 800 MHz band worked together to develop the NAM/MRFAC proposal.

NAM/MRFAC developed a retuning solution that would create three separate but adjacent contiguous spectrum blocks for the current 800 MHz incumbents.[36] NAM/MRFAC's solution is advantageous because: (1) it resolves the interleaving in the 800 MHz band by segregating Public Safety, PLMRS users, and cellularized digital CMRS systems, (2) it helps

[36] *See NPRM* ¶¶ 21-22.

relieve interference problems by making business users a "buffer" between Public Safety and the cellularized CMRS systems, (3) it provides a solution that offers the possibility of retuning instead of replacing equipment, which would be required by rebanding, and (4) it places Public Safety channels adjacent to the existing Public Safety allocation at 700 MHz.

Boeing's primary concern with the NAM/MRFAC proposal is its treatment of Channels 1-150—namely, that the NAM/MRFAC solution would allocate Channels 1-150 to Public Safety and move B/ILT licensees to Channels 201-400. Implementation of the NAM/MRFAC plan would give rise to the border region complications discussed in detail above. Specifically, Channels 201-400 are reserved for Canada in the border region. Because of this problem, if the Commission decides to implement the NAM/MRFAC solution, incumbent B/ILT licensees in Channels 1-150 in the Canadian border regions should be permitted to remain "as is" on a primary basis until appropriate bilateral agreements can be implemented.

C. The Commission Should Also Consider Adopting Elements of the Plan Under Development by the Private Wireless Coalition

The plan under development by the Private Wireless Coalition also has merit, especially given the current uncertainty surrounding the status of the Upper 700 MHz band. The Private Wireless Coalition proposes to adopt a long-term solution whereby the 800 MHz Public Safety licensees are relocated to the 700 MHz band. This portion of its proposal is identical to the proposal put forth by the Coalition, as discussed above. The Private Wireless Coalition, however, addresses the need for short-term solutions while the relocation is being performed. Specifically, the Private Wireless Coalition suggests that the interference-resolution techniques contained in

the *Best Practices Guide*[37] should be emphasized and a retuning solution (such as the NAM/MRFAC proposal, as discussed above), should be implemented as short-term fixes for the 800 MHz interference problems.

The primary benefit of the Private Wireless Coalition proposal is that the *Best Practices* and retuning short-term solutions become the primary solutions to address the interference problems in the 800 MHz band if Public Safety's relocation to 700 MHz does not or cannot occur. Therefore, if the optimal (700 MHz) solution cannot be implemented, the Commission could readily implement the already adopted "back up" plan. Such an approach would eliminate the regulatory delay associated with revisiting the issue and would help ensure the most expeditious resolution of the 800 MHz Public Safety interference problem. Any decision to implement this plan would also need to address the border region complications discussed in the previous section.

D. Boeing Also Finds Merit With Elements of the Commission's Retuning Proposal

A second retuning proposal that would help to resolve Public Safety interference in the 800 MHz band was outlined by the Commission in its *NPRM*.[38] The Commission's proposal would also segregate the various user groups within the 800 MHz band. The Commission's proposal is attractive because: (1) it appears to enable retuning instead of rebanding; (2) it resolves the interleaving within the 800 MHz band by segregating Public Safety, PLMRS, and CMRS users; and (3) it reorganizes the 809-816 MHz band instead of the 806-809 MHz band.

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[37] *See* Association of Public Safety Communications Officials ("APCO")//Motorola/Nextel/ Public Safety Wireless Network ("PSWN"), *Avoiding Interference Between Public Safety Wireless Communications Systems and Commercial Wireless Communications Systems at 800 MHz – A Best Practices Guide* at 8 (Dec. 2000) ("*Best Practices Guide*") *available at* http://wireless.fcc.gov/publicsafety.

[38] *See NPRM* ¶ 26.

By not disrupting the assignment of Channels 1-150—channels Boeing uses extensively for its border region PLMRS communications—the Commission's proposal avoids some of the potential for related Canadian border region problems for B/ILT incumbents.

A problem with the Commission's proposal, however, is that it reduces the channels assigned for B/ILT communications in the 809-816 MHz range.[39] The Commission's proposal assigns only Channels 221-320 to B/ILT use at 809-816 MHz. Since the entire 809-816 MHz band is assigned to Canada along the border region, the Commission's proposal appears to provide B/ILT licensees even less flexibility than the NAM/MRFAC proposal in accommodating coordination requirements.

The Commission's proposal would also move Public Safety users to channels currently controlled by Canada in the border regions.[40] Therefore, if the Commission ultimately adopts its own proposal for resolving the Public Safety interference problem in the 800 MHz band, it should allow border region incumbent Public Safety licensees to remain "as is" until the appropriate bilateral agreements can be reached.

The *NPRM* also discusses the possibility of resolving the interference problems currently being experienced in the 800 MHz band by either increasing the permissible signal level for Public Safety licensees or reducing the permissible signal level for the interfering CMRS stations.[41] Given this choice, in those cases where CMRS licensees are causing harmful interference, the Commission should require those CMRS providers to reduce their transmitting power. Allowing Public Safety to transmit at increased power levels may have the short-term

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[39] *See id.*

[40] *See id.*

[41] *See id.* ¶¶ 76-77.

result of marginally improving reception, but an increased signal level may not block out interference and may, in fact, become a new source of harmful interference for all users of the band.

If the Commission decides to alter the permissible power levels within the 800 MHz band, it should require CMRS providers to reduce their signal strengths. CMRS providers have argued that, despite causing harmful interference in the 800 MHz band, they have been acting within the Commission's rules.[42] This is an indication that the Commission should consider amending its rules. Requiring a reduction in CMRS signal strength is rational because strong CMRS signals have been identified as a primary source of the interference problems in the band.[43] Further, prior instances of harmful interference to Public Safety users have often been resolved when the CMRS provider at issue reduced its signal strengths and/or adjusted its antenna tilts.[44] If CMRS providers need to increase their capacity, they should obtain additional spectrum instead of over loading their current systems to the detriment of reliable Public Safety communications.

IV. THE COMMISSION SHOULD NOT ADOPT REVISIONS TO ITS RULES FOR TERRESTRIAL WIRELESS OPERATORS THAT WOULD HARM PLMRS INCUMBENTS

The Commission includes in its *NPRM* several items tangentially related to the 800 MHz proposals.[45] Specifically, the Commission sought comment on lifting the current freeze on intercategory sharing, allowing expanded commercial use of the 900 MHz band (in the event that

[42] *See, e.g., Nextel White Paper* at 7.

[43] *See Best Practices Guide* at 8.

[44] *See id.* at 12.

[45] *NPRM* ¶¶ 37, 83-85.

PLMRS incumbents are moved to that band), and setting aside 900 MHz spectrum for a Critical Information Infrastructure ("CII") use.[46]

A. The Commission's Freeze on Intercategory Sharing Should Remain Intact

In the *NPRM*, the Commission requests comment on either consolidating the B/ILT services or lifting the freeze on intercategory sharing.[47] Boeing believes that the freeze on intercategory should remain intact because the different user categories have continuing utility, and the freeze shields PLMRS users from the encroachment of CMRS providers. If the freeze were lifted, it is likely that history will repeat itself and SMR applicants will inundate the Commission with requests for intercategory sharing with a view towards converting increasingly scarce private radio spectrum to commercial service.

In no event should commercial providers be permitted to use intercategory sharing to obtain PLMRS spectrum.[48] Boeing steadfastly believes that commercial users should not be permitted to encroach further on the spectrum of private users, and has consistently opposed maneuvers in the past aimed at converting PLMRS licenses in the 800 MHz band to commercial use.[49] While the existing intercategory sharing freeze may prompt an occasional waiver request, the administrative burden associated with addressing such intermittent waiver requests is greatly outweighed by the potential problems associated with lifting the freeze altogether.[50]

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[46] *See id.*

[47] *See id.* ¶ 85. *See also* 47 C.F.R. § 90.621(f) (2001).

[48] *See NPRM* ¶ 83.

[49] *See supra* at note 12.

[50] *See NPRM* ¶ 84.

B. Commercial Use Should Not Be Extended to the 900 MHz Band Under Any Solution

The *NPRM* seeks comment on whether the Commission should permit commercial use of the 900 MHz band, if a 900 MHz relocation solution for PLMRS users is chosen.[51] As discussed above, any further commercialization of PLMRS spectrum should be avoided. Boeing would strongly oppose permitting commercial use in any spectrum that is intended for PLMRS licensees. Allowing commercial use in the band would cause a spectrum shortage that may leave 800 MHz incumbents with nowhere to relocate. A solution that does not adequately meet the needs of displaced licensees would be contrary to the public interest. Further, CMRS providers have ample opportunity to obtain spectrum by other means. Current PLMRS licensees have valid and important business reasons for using private, internal communications systems. In Boeing's view, most of the 800 MHz private licensees whose needs can be met by commercial services have made the conversion, often swapping their licenses for reduced rates on SMR services. For most of the remaining PLMRS licensees, commercially available services cannot meet their individualized requirements for information, communication, and control systems.

C. The Commission Should Refrain from Implementing a Special Set-Aside for CII

The *NPRM* asks whether it would be appropriate to reserve a portion of the proposed reconfigured 900 MHz B/ILT band for use by CII.[52] Such a set-aside would be a poor strategy and creates an improper precedent in any spectrum band. Boeing supports the Commission's prior rejection of the proposal.[53] If the Commission were to establish a CII set-aside, however,

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[51] *See id.* ¶ 86.

[52] *See id.* ¶ 37.

[53] *See Implementation of Sections 309 (j) and 337 of the Communications Act of 1934 as Amended; Promotion of Spectrum Efficient Technologies on Certain Part 90 Frequencies;*

Boeing believes that it should be eligible as a CII licensee by virtue of its defense-related work and its extensive operations pertaining to the commercial airline industry with its inherent safety and security issues.

As a threshold matter, a better and clearer definition of "Critical Infrastructure Industries" is needed in order to determine whether a special spectrum set-aside is warranted.[54] As it is, the UTC/APA/AAR proposal would extend CII to utility industries serving "quasi public safety" functions. It is unclear whether "industrial safety" would equate to "quasi public safety" and therefore qualify for CII channels. The Nextel proposal contains a narrower definition of CII but it appears to cater to special interests. In any event, it would be extremely difficult to create a bright-line definition of CII sufficient to provide access to those who rightfully need it while at the same time being narrow enough so that spectrum is actually available in the set-aside. It is also likely that if the Commission granted the request for a CII set aside using its current vague definition, the floodgates of other similar set aside requests would open and the Commission would have to deal with numerous similar requests. This seems to be moving in the opposite direction of the Commission's broad policy of encouraging increased flexibility within spectrum allocations. Therefore, the proposal should not be accommodated.

Establishment of Public Service Radio Pool in the Private Mobile Frequencies Below 800 MHz; Petition for Rule Making of The American Mobile Telecommunications Association, Report and Order and Further Notice of Proposed Rule Making, 15 FCC Rcd 22709, 22755-57 (2000).

[54] Nextel's proposal defines CII as "water, gas, and electric power utilities." *NPRM* ¶ 37. CII has otherwise been characterized to include the power, chemical, and railroad industries with a "quasi public safety" component. *Id. See also Establishment of Public Service Radio Pool in the Private Mobile Radio Frequencies Below 800 MHz*, Petition for Rulemaking, UTC, APA and AAR, RM-9405 (filed Aug. 14, 1998).

V. THE COMMISSION SHOULD PROMPTLY REMOVE FROM CONSIDERATION IN THIS PROCEEDING NEXTEL'S PROPOSAL TO REALLOCATE 2 GHz MSS SPECTRUM

As part of its proposal, Nextel requested allocation of 10 megahertz of 2 GHz MSS spectrum in exchange for certain spectrum in the 700 MHz, 800 MHz, and 900 MHz bands. Boeing strongly opposes this request.

A. Other Pending Proceedings Foreclose Consideration of Nextel's Proposal

Other open Commission proceedings are already addressing major issues related to the 2 GHz MSS allocation. For example, the *Advanced Wireless Proceeding* is considering proposals to reallocate 2 GHz MSS spectrum for third generation ("3G") terrestrial wireless services.[55] The *MSS Flexibility Proceeding* is examining proposals to allow additional flexibility in the delivery of MSS communications through the use of ancillary terrestrial operations in the 2 GHz MSS band.[56]

The cumulative effect of proposed reductions to the 2 GHz MSS band has been to unfairly disadvantage recent MSS licensees, who face their first Commission milestones in July of this year. Furthermore, as the Commission itself noted in the *NPRM*, it is likely that these

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[55] *See Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3G for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems; Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use By the Mobile-Satellite Service; The Establishment of Policies and Service Rules for the Mobile-Satellite Service in the 2 GHz Band; Petition for Rule Making of the Wireless Information Networks Forum Concerning the Unlicensed Personal Communications Service; Petition for Rule Making of UTStarcom, Inc. Concerning the Unlicensed Personal Communications Service,* Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd 16043, 16054-56 (2001)("*Advanced Wireless Proceeding*").

[56] *See Flexibility for Delivery of Mobile Satellite Services in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Band; Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by Mobile Satellite Service,* Notice of Proposed Rulemaking, 16 FCC Rcd 15532, 15543 (2001)("*MSS Flexibility Proceeding*").

proceedings will be resolved prior to resolution of the instant proceeding.[57] As such, there is no realistic prospect that Nextel's request can be accommodated given the other proceedings.

Further, the instant proceeding is a wholly inappropriate venue for Nextel's request to obtain 2 GHz spectrum. Nextel should have, and indeed could have, raised its proposal in the context of the *Advanced Wireless Proceeding* or another spectrum allocation proceeding. Consideration of the Nextel 2 GHz proposal in this proceeding would be inappropriate because an assignment of 2 GHz spectrum to Nextel would more than offset the "concessions" Nextel has proposed to help alleviate the problems that it was responsible for creating for Public Safety and other users in the 800 MHz band. Grant of Nextel's proposal may also violate the competitive bidding requirements of the Communications Act.[58]

B. Reallocation of 2 GHz MSS Spectrum for Terrestrial Applications Such as Nextel's Is Not the Highest and Best Use of the Spectrum

As recently determined by the Commission, the 2 GHz MSS allocation is the highest and best use of this spectrum.[59] Efforts to undermine or reverse that determination are contrary to public policy, have tangible deleterious effects on 2 GHz MSS licensees, and should be rejected. In deciding whether to preserve the 2 GHz MSS allocation, the Commission should consider whether 2 GHz MSS licensees have been given a fair opportunity to implement their systems and

[57] *See NPRM* ¶ 61.

[58] *See* 47 U.S.C. § 309(j).

[59] *See Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service,* First Report and Order and Further Notice of Proposed Rulemaking, 12 FCC Rcd 7388, 7394 (1997)("*2 GHz MSS First Report and Order*"), *aff'd on recon.*, Memorandum Opinion and Order and Third Notice of Proposed Rule Making and Order, 13 FCC Rcd 23949 (1998) ("*2 GHz MSS Allocation Order*").

prove the Commission correct in its determination that a MSS allocation at 2 GHz serves the public interest.

1. 2 GHz MSS Licensees Have Not Been Given the Chance to Demonstrate Whether They Can Succeed

The Commission's granting of 2 GHz MSS licenses on July 17, 2001—*less than a year ago*—was the culmination of a decade of coordinated FCC and industry effort. The initial international allocations of 2 GHz spectrum for MSS were made (with strong U.S. support) during the 1992 World Administrative Radio Conference ("WARC-92") and 1995 World Radiocommunication Conference ("WRC-95").[60] The Commission then allocated the 1990-2025 MHz and 2165-2200 MHz bands to MSS in the United States in 1997, with the allocation becoming effective on January 1, 2000.[61] 2 GHz MSS licensing and service rules were adopted in August of 2000,[62] and, as noted above, licensing of the initial 2 GHz MSS licensees occurred in 2001.[63] 2 GHz MSS licensees actively participated in each of these domestic and international efforts and proceedings, demonstrating their commitment to initiating service.

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[60] WARC-92 allocated the 1980-2010 MHz and 2170-2200 MHz bands for MSS worldwide at the urging of the United States. During WRC-95, the United States secured additional allocations at 1990-2025 MHz and 2165-2200 MHz for MSS in the United States and Canada and succeeded in facilitating the availability of MSS systems at 1980-2010 MHz and 2170-2200 MHz by January 1, 2000. *See 2 GHz MSS First Report and* Order, 12 FCC Rcd at 7388.

[61] *See 2 GHz MSS Allocation Order* at 23951.

[62] *See Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band,* Report and Order, 15 FCC Rcd 16127 (2000)("*2 GHz MSS Service Rules Order*").

[63] *See, e.g., The Boeing Company*, Order and Authorization, 16 FCC Rcd 13691 (Int'l Bureau 2001).

Furthermore, the first milestone for 2 GHz MSS licensees—establishment of a non-contingent satellite manufacturing contract—will not occur until July 17, 2002.[64] Any effort to alter the 2 GHz allocation prior to this milestone would unfairly erode the ability of 2 GHz MSS licensees to develop their networks.

Reallocation of any of the 2 GHz MSS spectrum would significantly impair MSS licensees' rights, reasonable expectations regarding the spectrum, and the future potential to expand 2 GHz MSS systems to meet reasonable and anticipated demand. In fact, 2 GHz MSS licensees are already being hurt by regulatory uncertainty. The questions being raised by repeated regulatory challenges to the 2 GHz MSS spectrum allocation severely harms 2 GHz MSS licensees. In addition to the lost time and resources dedicated to defending the spectrum allocation, the ability of 2 GHz licensees to raise or commit substantial resources to the construction of 2 GHz MSS networks is impaired. Regulatory uncertainty undermines licensee efforts to raise capital and obtain other commitments related to meeting the FCC's milestones and is highly counterproductive to the process of implementing MSS systems. 2 GHz MSS licensees need regulatory stability in order to successfully implement their systems. Additionally, 2 GHz MSS licensees should be able to rely on the Commission's previous assurances that 2 GHz MSS licensees will have sufficient opportunities to expand their systems as demand increases.

[64] *See id.* ¶ 48. Other milestones are: July 17, 2003 for complete critical design review; January 17, 2004 to begin physical construction of all satellites; January 17, 2005 for completion of construction of first two satellites in the system; and July 17, 2007 for certification that the entire system is operational. *Id.*

2. The Commission Has Already Established That MSS Is The Highest and Best Use For The 2 GHz Spectrum Allocation

When making its determination to allocate 2 GHz spectrum to MSS, the Commission concluded that satellites are an "excellent technology for delivering basic and advanced telecommunications services to unserved, rural, insular or economically isolated areas."[65] 2 GHz MSS networks can also provide reliable and widely available emergency communications services. Further, the Commission explicitly found that MSS spectrum was needed at 2 GHz, served the public interest, would enhance competition in the mobile satellite and terrestrial communications services, would complement wireless service offerings through expanded geographic coverage, and would promote the development of regional and global communications.[66]

The telecommunications industry has not changed so dramatically over the course of the last two years since the 2 GHz MSS service rules were adopted (and the mere nine months since the licenses were issued by the Commission) so as to merit reallocation of any part of the 2 GHz MSS band. Rural and remote communities are still in need of competitive telecommunications services. Furthermore, the Public Safety community has developed an increased recognition of the need for reliable emergency communications services that can withstand a major disruption to terrestrial-based networks. Therefore, the Commission should reaffirm its prior decisions in this regard. The frequent and repeated re-assessment of the "highest and best use" of the 2 GHz MSS spectrum allocation (by way of this proceedings and the others discussed above) is inappropriate and is a waste of the licensees', the industry's, and the Commission's resources.

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[65] *2 GHz MSS Service Rules Order*, 15 FCC Rcd at 16144-45.

[66] *See 2 GHz MSS Allocation Order*, 13 FCC Rcd at 23955-56.

C. Nextel's 2 GHz Proposal Should Be Summarily Dismissed

The reallocation of 10 megahertz of the 2 GHz MSS spectrum as requested by Nextel would be unprecedented. While Boeing believes that it is unlikely that the Commission will give this request serious consideration, the recitation of this proposal in the *NPRM* is disconcerting and counterproductive. It is also likely that, if the Nextel request were granted, some 2 GHz licensees who have made significant commitments in terms of both capital and other resources and who have started construction would challenge the order. Such challenges would further delay this proceeding and the ultimate productive use of the spectrum.

If Nextel requires more spectrum in order to provide its services, it should obtain access to that spectrum through established Commission processes. Instead of requesting a dedicated reallocation 10 megahertz of 2 GHz MSS spectrum, Nextel could acquire additional spectrum through established license assignment procedures, or petition for a new terrestrial mobile allocation (which would of course be open to all applicants). There is no need to venture outside of terrestrial wireless spectrum, or even the 800 MHz band, to resolve the interference problems being experienced by Public Safety services. Because the 2 GHz MSS allocation is clearly in the public interest, because other sources of CMRS spectrum exist and are readily available, and because this proceeding is not an appropriate venue for Nextel's extraordinary request, the Commission should summarily deny the request to remove 10 megahertz from the 2 GHz MSS allocation.

VI. CONCLUSION

For the foregoing reasons, the Commission should strive to solve the harmful interference being experienced by Public Safety in the 800 MHz band in a manner that minimizes the disruption to incumbent licensees and addresses the special needs of border area licensees. The

Commission should also hold harmless those PLMRS licensees that are not the source of the interference problems in the 800 MHz band in terms of retuning and/or relocation costs. The Commission should also summarily dismiss the Nextel proposal that it be assigned 10 megahertz of the 2 GHz MSS spectrum.

Respectfully submitted,

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